REMARKS

With Applicant's invention, a personal video recorder can be fast forwarded or rewound to quickly move through the video content to desired images. When video content is recorded on a magnetic disk in a hard disk drive, the prior art teaches that the disk drive head must move through every data block on each rotation of the disk (i.e., circumferentially with respect to the disk) until the desired data block is reached. See, e.g., Applicant's background at paragraphs [0003] – [0006]. Applicant's invention eliminates the unnecessary relative circumferential motion and moves the head radially while maintaining chronological sequence of the video content with respect to the disk. It is critical to maintain the chronology between the data blocks so that the visual images appear in the order they were recorded.

Beginning on page 2 of the present office action, the Examiner attempts to read into the *Bohrer* reference that it considers and is capable of sensitivity to the chronological sequence of data blocks. The Examiner continues to cite paragraph [0035] of *Bohrer* for this proposition. However, paragraph [0034] of *Bohrer* makes it clear that it is not only indifferent to chronology, but actually teaches away from consideration of chronology. This reference is focused not on the chronology of the data blocks, but on "the network transfer rate," as evidenced in the first element of each independent claim (Claims 1, 10 and 18), and paragraphs [0008] and [0034]-[0037]. In particular, *Bohrer* states that:

> "If disk scheduler 206 determines that the physical location of a pending block is closer to the current position of the read/write head than the physical location of the next sequentially ordered block, *the retrieval of data from the block that is closer may be prioritized over the retrieval of data from the next sequential block* to minimize the physical movement of the read/write head. Thus, a decision is made in block 514 whether there is data on a track that is physically closer to the current head position than the track that would be next accessed if the request were processed sequentially." (emphasis added) Paragraph [0034].

Since the physical location of some data blocks will be closer to the head than some of the next sequential blocks, *Bohrer* is useless for the intended application of video recording. Thus, *Bohrer* teaches away from chronological sequential data block retrieval.

Moreover, careful inspection of paragraph [0035] of *Bohrer* reveals that it does not use a single term that is related to chronological sequencing of the data blocks. Although *Bohrer* has been cited for this proposition, it still lacks Applicant's chronological sequencing. Moreover, even if *Bohrer* is applied to single file, it still would not seek out the chronological sequence of the data blocks in that file based on the clear teaching of paragraph [0034].

Furthermore, the reference focuses on an overall network transfer rate of data to numerous clients (see FIG. 1), each of which requires a different file. Page 4, paragraph [0036], Abstract. Because *Bohrer* only focuses on retrieving the data for those different files to the clients as quickly as possible, it is indifferent to the chronological sequence of the data blocks. The server 106 pulls data from multiple files on the disk 108 based on the proximity of the data blocks to each other—not based on the sequence in which the data was recorded. This is a radically different concept than Applicant's invention since video content must be reproduced in chronological order to make any sense.

Bohrer's network (e.g., LAN, internet, etc.; see, e.g., paragraph [0016]) is for multiple clients 102 as shown in FIG. 1. In addition, both *Noda* and *Bohrer* are silent regarding data blocks that are before the current data block (i.e., for rewinding operations), since the references only address subsequent activity. As noted by the Examiner, *Noda* also fails to disclose data position calculating means for calculating a position of a data block for a digital content to be read next and positions of other data blocks existing before and after the data block, as required by all of Applicant's claims. These significant differences between Applicant's claimed

invention and the first two references renders moot the rejection under the other combinations of references.

Claim 6 requires the head position estimating means estimates "a present position of a head with respect to the recording medium for reading a single file of the digital content," and that the data position calculating means calculates "a position of a data block for a digital content to be read next in chronological sequence in the single file, and chronological sequential positions of other data blocks existing sequentially before and sequentially after the data block in the single file." The requirement of moving through a single file (again either in forward or backward) in chronological sequential order would contradict the teachings of *Bohrer* which is only concerned with gathering data for multiple files as quickly as possible. Moreover, even if *Bohrer* did retrieve a single file, it would not gather the data in chronological sequential order, rather it would gather the data based on proximity of the data blocks regardless of their chronology.

Claim 6 also requires a "moving destination determining means for determining a data block at which the time required to move the head is the shortest, as a data block to be read next in chronological sequence, based on the present position of the head, which has been estimated by the head position estimating means, and the chronological sequential positions of the respective data blocks." Since chronology would frustrate the teaching of *Bohrer*, that reference is inadequate to reject the claims. Claim 6 now also further requires all the elements of both canceled Claims 7 and 8. Although *Dobbeck* was cited in combination against Claim 8, the underlying and fundamental requirements of Claim 6 with regard to *Bohrer* render that rejection moot.

Claim 15 is directed to a "personal video recorder for reading and reproducing a digital video content" recorded in a hard disk drive. Positions of the data blocks for the digital video content are calculated "for rewind and fast operations, respectively, for displaying the digital video content on the personal video recorder." Claim 15 also requires the elements of canceled Claim 16, and the calculation of time required to move the head, based on the estimated present position of head and the positions of the respective data blocks; and reading a data block at which the calculated time required to move the head is the shortest. This digital video application is clearly distinguished from the Internet network transfer of data to remote clients as shown and described by *Bohrer*. Moreover, although *Jun* and *Dobbeck* were cited in combination against Claim 16, the underlying and fundamental requirements of Claim 15 with regard to *Bohrer* likewise render that rejection moot.

Claim 17 includes the "single file" elements described above for Claim 6, and the "chronological sequential positions" of data blocks for the digital video content "for rewind and fast operations" described for Claim 15. This claim is allowable for the same reasons previously established.

It is respectfully submitted that the present application is in condition for allowance and favorable action is requested. No fee for an extension of time or any other fees are believed to be required. However, in the event that any additional fees are required, please charge them to **Hitachi Global Technologies' Deposit Account Number 50-2587.**

Respectfully submitted,

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